

REMARKS

By this Amendment, claims 7 and 12 have been amended, and new claim 29 is added. Accordingly, claims 1-29 are pending in this application. No new matter is presented in this Amendment.

In the instant Office Action, the Patent and Trademark Office (PTO) rejects claims 1, 2, 4, 8, 10-15, 17, 21-26, and 28 under 35 U.S.C. §102(b) over U.K. Patent No. 2335301 to Bloomquist et al. ("Bloomquist"). This rejection is respectfully traversed.

Independent claim 1 recites, *inter alia*, a method for use in an automatic storage apparatus for moving digital data storage units, comprising using "a record of data transfer operation occurrences performed relative to the or each storage portion," so as to limit a number of data transfer operations performed on the storage portion. Bloomquist does not disclose, teach or suggest this feature.

Bloomquist appears to only describe a tape cleaning system for ensuring cleaning of transducer heads on a magnetic storage system (*see* page 4, lines 18-20). According to the logic flow diagram of Bloomquist's Fig. 5, and page 14, lines 3-11, a "smart cleaning algorithm" 70 is used to implement cleaning of one or more tape heads within the tape drive upon loading of the cleaning cartridge. Though Bloomquist may disclose, at page 13, lines 18-19, recording usage of the cleaning cartridge 20, and at page 14, lines 30-31, using a counted number of clean cycles to determine whether a number of cleaning cycles on a tape head is exceeded, a number of clean cycles performed on a tape head, cannot be confused with using a record of data transfer operations performed on a storage portion of a storage unit, as disclosed by the Applicants. Furthermore, Bloomquist's determining that a cleaning cartridge needs to be replaced does not disclose limiting use of a storage portion of a storage unit, as recited by the Applicants.

Accordingly, because Bloomquist does not disclose, teach or suggest each and every limitation recited in claim 1, the rejection of claim 1 under 35 U.S.C. §102(b) is improper. Therefore, Applicants respectfully submit that independent claim 1 is patentable over Bloomquist.

Claim 2-12 depend from independent claim 1 and are likewise patentable over Bloomquist at least for their dependence on claim 1, as well as for additional features they recite.

In regards to dependent claim 2, for example, a data transfer operation occurrence relative to a storage portion is added to the record each time a data transfer operation is performed on the storage portion. Notwithstanding the fact that Bloomquist only describes a tape cleaning apparatus, Bloomquist only appears to describe incrementing a counted number of cleaning cycles performed on a tape head and recording usage of the cleaning cartridge. Applicants respectfully submit that counting cleaning cycles and usage of the cleaning cartridge is not adding a data transfer occurrence to a portion of the storage unit, as recited in claim 2.

In addition, dependent claim 7 has been amended to recite wherein a number of transfer operations per storage portion does not exceed three. Nowhere does Bloomquist disclose this feature.

Regarding independent claim 13, the Applicants recite a control apparatus for use in at least one of an automatic storage apparatus or data transfer device, comprising b) means for using a record of data transfer operation occurrences to limit the number of data transfer operations performed on the storage portion, and c) means for adding a data transfer operation occurrence to the record. Bloomquist fails to disclose either of these features.

As previously argued, Bloomquist only describes using a number of cleaning cycles and usage of the cleaning cartridge. Bloomquist fails to disclose maintaining a record of data transfer operations to a storage portion of a storage unit. Accordingly, Applicants respectfully submit that independent claim 13 is patentable over Bloomquist.

Regarding claim 14, the Applicants recite, *inter alia*, a digital data transfer device arranged for: b) accessing a record of data transfer operations performed relative to the storage portion of a reference unit; and c) using the record for limiting the number of data transfer operations performed on the storage portion. Bloomquist similarly fails to disclose, teach or suggest at least these features recited in claim 14.

As presented above, Bloomquist only describes, at page 15, lines 25-28, a tape cleaning operation where a number of clean cycles is used to determine whether a tape head is defective and at page 13, lines 18-19, recording usage of the cleaning cartridge. Nowhere does Bloomquist disclose, teach or suggest using a record of data transfer operations performed on a storage portion to limit the number of data transfer operations, as recited in claim 14.

Claims 15, 17, 18, 21, and 22 depend from independent claim 14 and are likewise patentable over Bloomquist at least for their dependence on claim 14, as well as for additional features they recite.

Independent claims 23 and 28 recited digital data storage and transfer devices, respectively. Similar to the arguments presented above, claims 23 and 28 recite accessing a record of data transfer operations performed relative to a storage portion, and in a similar manner are patentable based upon the failure of Bloomquist to disclose, teach or suggest the claimed features of claims 23 and 28. Claims 24 and 25 depend from claim 23 and are likewise patentable over Bloomquist.

The PTO further rejects claims 3, 5-7, 9, 16, 19, 20 and 27 variously under 35 U.S.C. §103(a) over Bloomquist singularly, or further in view of European Patent Application No. 0507437A2 to Patton et al. ("Patton"). This rejection is respectfully traversed.

The disclosures of Bloomquist and Patton, taken as a whole, do not suggest Applicants' claimed method and data transfer device. Applicants respectfully submit that while both Bloomquist and Patton appear to describe tape cleaning systems, neither Bloomquist nor Patton discloses, teaches or suggests a method or device incorporating a storage unit that comprises a record of the number of data transfers to at least one storage portion of the storage unit in order to limit the number of data transfers to the storage portion.

Dependent claim 7 has been amended to include additional features of the method recited in independent claim 1. Applicants respectfully submit that not only does Bloomquist fail to disclose the subject matter of claim 1, Applicants further submit that Bloomquist fails to disclose wherein a low number of transfer operations is allowed per storage portion.

Regarding independent claim 27, the PTO asserts that Bloomquist discloses, at page 14, line 30 – page 15, line 2, and lines 24-28, using the record of data transfers to limit the number of data transfer operations performed on each of the storage portions. Applicants respectfully disagree.

As argued above, the flow diagram of Bloomquist's Fig. 5 only discloses determining whether a tape head is clean (S4), comparing a number of cleaning cycles for a tape head with a predetermined number (step S5), and based upon that determination, Bloomquist will report a defective tape head (S10). Nowhere does Bloomquist disclose, teach, or suggest limiting the use of a portion of the diagnostic tape by checking a record of data transfers performed to a portion of the

diagnostic tape. Patton similarly fails to disclose a digital data transfer device, as recited in claim 27.

Applicants respectfully submit that, as discussed above, independent claims 1, 13, 14, and 23 are patentable over Bloomquist. Applicants further submit that the combination of Bloomquist and Patton similarly fail to disclose, teach or suggest all the features recited in the independent claims and are therefore patentable over allowable combinations of the cited art. Claims 3, 5-7, 9, 16, 19, and 20 depend variously from claims 1, 13, 14, and 23 and are likewise patentable, at least in view of their dependence on an allowable independent claim. Withdrawal of the rejection is respectfully requested.


New claim 29 is added and is likewise patentable based upon the additional features it recites and its dependence on independent claim 1.

All objections and rejections have been addressed. In view of the foregoing, Applicants respectfully submit that the application is in condition for allowance and favorable reconsideration and prompt allowance of claim 1-29 is earnestly solicited.

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Respectfully submitted,

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